WHAT IS CLAIMED IS:

1. An apparatus for use in conducting an electrochemiluminescence binding assay, comprising:

(a) a cell; and

(b) means for sonicating contents of said cell.

2. An apparatus as recited in claim 1, wherein said sonicating means is capable of providing sonication energy at from 0.1 to 5kHz.

3. An apparatus as recited in claim 1, wherein said sonicating means is capable of providing sonication energy at more than 1,000, kHz.

4. An apparatus as recited in claim 1, wherein said sonicating means has a power of from 0.001 to 10 watts.

5. An apparatus for use in carrying out a binding assay, comprising:

(a) a cell; and

(b) means, structurally coupled to said cell, for sonicating contents of said cell.

6. An apparatus as recited in claim 5, wherein said sonicating means is capable of providing sonication energy at from 0.1 to 10,000kHz.

7. An apparatus as recited in claim 5, wherein said sonicating means has a power of from 0.001 to 10 watts.

8. An apparatus as recited in claim 5, wherein said assay is an electrochemiluminescence assay.

9. An apparatus for use in conducting an electrochemiluminescence binding assay, comprising:

(a) a cell; and

(b) means, in solid contact with said cell, for sonicating contents of said cell.

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10. An apparatus as recited in claim 9, wherein said sonicating means is capable of providing sonication energy at from 0.1 to 10,000kHz.

11. An apparatus as recited in claim 9, wherein said sonicating means has a power of from 0.001 to 10 watts.

12. An apparatus as recited in claim 9, wherein said apparatus is portable.

13. An apparatus for use in conducting an electrochemiluminescence binding assay, comprising:

(a) a cell including a working electrode; and

(b) means, structurally coupled to said cell, for sonicating contents of said cell.

14. An apparatus as recited in claim 13, wherein said sonicating means is capable of providing sonication energy at from 0.1 to 10,000kHz.

15. An apparatus as recited in claim 13, wherein said sonicating means has a power of from 0.001 to 10 watts.

16. An apparatus as recited in claim 13, wherein said apparatus is portable.

17. The apparatus according to claim 13, wherein said

sonicating means is structurally coupled to said working electrode.

18. The apparatus according to claim 13, wherein said sonicating means comprises a piezoelectric device.

19. The apparatus according to claim 13 further comprising a power supply coupled to said working electrode, for supplying electrical energy to said electrode.

20. The apparatus according to claim 13 further comprising means for detecting luminescence from said cell.

21. The apparatus according to claim 13, wherein a binding reaction occurs at said working electrode.

22. An apparatus as recited in claim 13, wherein said apparatus is for the conduct of an immunoassay a nucleic acid hybridization assay or a receptor ligand binding assay.

23. An apparatus for use in carrying out electrochemiluminescence measurements, comprising:

(a) a cell;

(b) one or more electrodes each of said one or more electrodes having one or a plurality of binding domains, each of said domains containing a reagent capable of binding a component of a binding electrochemiluminescence assay; and

(c) means, structurally coupled to said cell, for sonicating contents of said cell.

24. An apparatus as recited in claim 23, wherein said sonicating means is capable of providing sonication energy at from 0.1 to 10,000kHz.

25. An apparatus as recited in claim 23, wherein said sonicating means has a power of from 0.001 to 10 watts.

26. An apparatus as recited in claim 23, wherein said apparatus is portable.

27. The apparatus according to claim 23, wherein said sonicating means is structurally coupled to said one or more electrodes.

28. The apparatus according to claim 23, wherein said sonicating means comprises a piezoelectric device.

29. The apparatus according to claim 23 further comprising a power supply coupled to said one or more electrodes, for supplying electrical energy to said electrode.

30. The apparatus according to claim 23 further comprising means for detecting luminescence from said cell.

31. The apparatus according to claim 23, wherein a binding reaction occurs at said one or more electrodes.

32. An apparatus as recited in claim 23 wherein said reagent is selected from the group consisting of antibodies, antibody fragments, enzymes, nucleic acids and receptors.

33. An apparatus for use in carrying out a binding assay, comprising:

(a) a cell including a diaphragm; and

(b) means structurally coupled through said diaphragm to said cell for sonicating contents thereof.

34. An apparatus as recited in claim 33, wherein said cell includes a solid phase support for conduct of a binding reaction.

35. An apparatus as recited in claim 33, wherein said apparatus includes a working electrode for the conduct of an electrochemiluminescence assay.

36. An apparatus as recited in claim 33, wherein said sonication means is a piezoelectric device.

37. An assay system for conducting a binding assay for the detection or quantitation of an analyte comprising:

(a) a cartridge comprising a cell;

(b) a cartridge receptacle including means for structurally coupling to said cell in said cartridge;

(c) means for sonicating the contents of said cell; and

(d) means for selectively detecting or quantitating light from each of said binding domains.

38. An assay system as recited in claim 37, wherein said cartridge further includes one or more electrodes each of said one or more electrodes having one or a plurality of binding

domains, each of said domains containing a reagent capable of binding a component of a binding electrochemiluminescence assay.

39. An assay system as recited in claim 37, wherein said cell further includes a diaphragm

40. An assay system as recited in claim 37, wherein said means for sonicating the contents of said cell includes a piezoelectric device.

41. A method for conducting an electrochemiluminescence binding assay comprising the steps of:

(a) introducing a composition containing an electrochemiluminescent moiety into a cell including a working electrode;

(b) sonicating said composition in said cell with means structurally coupled to said cell;

(c) applying electrical energy to said electrode to cause said electrochemiluminescent moiety to luminesce; and

(d) detecting or quantitating the electrochemiluminescence from said cell.

42. A method as recited in claim 41, wherein said sonicating means is a piezoelectric device.

43. A method as recited in claim 41, for cleaning debris in said cell.

44. A method for conducting an electrochemiluminescence binding assay comprising the steps of:

(a) introducing a composition containing an electrochemiluminescent moiety into a cell including one or more electrodes each comprising a composite containing a matrix and a multiplicity of carbon particles dispersed therein, each of said one or more electrodes having one or a plurality of binding domains, each of said domains containing a reagent capable of binding a component of a binding electrochemiluminescence assay;

(b) sonicating said composition in said cell with means structurally coupled to said cell;

(c) applying electrical energy to said electrode to cause a said electrochemiluminescent moiety bound to said one or a plurality of binding domains to luminesce; and

(d) detecting or quantitating the electrochemiluminescence from said cell.

45. A method for conducting a kinetic binding assay by electrochemiluminescence comprising the steps of:

(a) introducing a composition containing an electrochemiluminescent moiety into a cell including one or more electrodes each of said one or more electrodes having one or a

plurality of binding domains, each of said domains containing a reagent capable of binding a component of a binding electrochemiluminescence assay;

(b) sonicating said composition in said cell with means structurally coupled to said cell;

(c) applying electrical energy to said electrode to cause a said electrochemiluminescent moiety bound to said one or a plurality of binding domains to luminesce so as to carry out a kinetic assay; and

(d) detecting or quantitating the electrochemiluminescence from said cell.

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